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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,294	11/17/2000	Masahiro Watanabe	1538.1002/JDH	4921

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EXAMINER

KIBLER, VIRGINIA M

ART UNIT PAPER NUMBER

2623

DATE MAILED: 03/09/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,294

Applicant(s)

WATANABE ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because “threshole” should be changed to “threshold” in Figure 2a, step S7; “expamded” should be changed to “expanded” in Figure 2c, step S21; and “pourtial” should be changed to “partial” in Figure 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. (5,231,677) in view of Okubo (5,392,137).

Regarding claims 1, 8, and 14, Mita et al. (“Mita”) discloses a contour image generator for generating a contour image from an input image generated by reading, as a multi-valued image, print contents of printed matter into (Col. 4, lines 25-29), a contour adder for adding contours to the contour image (Col. 4, lines 29-32), and an image synthesizer for superimposing the input image and a smoothed imaged obtained by performing a smoothing process for the input image (Col. 4, lines 33-38). Mita does not appear to expressly disclose referring to a contour density distribution. However, Okubo teaches that it is known to refer to a contour

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density distribution (Col. 4, lines 17-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the contour adder disclosed by Mita to include referring to a contour density distribution as taught by Okubo because it is well known in the art and distinguishes undesired noise.

Regarding claims 2, 9, and 15, Okubo discloses a deletion means for deleting a contour pixel within the contour image, the contour pixel satisfying at least one condition wherein a contour level of the contour pixel is equal to or small than a first threshold value (Col. 5, lines 19-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the contour adder disclosed by Mita to include referring to a deletion means as taught by Okubo because it is well known in the art and allows for edge correction.

Regarding claims 3, 10, and 16, Mita discloses a threshold value is a value for a contour level higher than a contour level caused by printing dots that result from printing and moiré patterns that occur when the print contents are read into (Col. 1, lines 29-67, Col. 2, lines 1-22; Col. 4, lines 20-46).

Regarding claims 4, 11, and 17, Mita discloses the contour adder includes a determination means for scanning the contour image with a predetermined window, and for determining whether a density of contour pixels in the predetermined window is equal to or greater than a second threshold value (Col. 9, lines 24-68, Col. 10, lines 1-26).

Regarding claims 5, 12, and 18, Mita discloses means for calculating an average value of contour levels of contour pixels in the predetermined window (Col. 9, lines 57-64), change means for changing the contour level of a target pixel in the window to the average value if the

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density of the contour pixels in the window is equal to or greater than the second threshold value and the contour level of the target pixel in the window is smaller than the average value (Col. 9, lines 24-68, Col. 10, lines 1-26).

Regarding claims 6, 13, and 19, Mita discloses an image synthesizer that determines a superimposition ratio for a pixel value of a pixel in the input image and a pixel value of a corresponding pixel in the smoothed image by referring to the contour levels of respective pixels in the contour added image (Abstract; Col. 14, lines 54-66).

Regarding claims 7 and 20, Mita discloses the superimposition ratio is determined by substituting the contour levels of the respective pixels in the contour added image into a predetermined function (Abstract; Col. 14, lines 54-66).

Other Prior Art Cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,549,656 to Lin for fuzzy image segmentation;

U.S. Pat. No. 6,373,992 to Nagao for image processing;

U.S. Pat. No. 6,075,902 to Kojima for area recognizing device for image signals; and

U.S. Pat. No. 6,026,184 to Fukushima for restoring bi-level pixel data to multi-level pixel data.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VK
3/6/04

MEHRDAD DASTOURI
PRIMARY EXAMINER

